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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/469,597	12/22/1999	JAMES E. ANGELO	S01.12-0543	5141

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EXAMINER

NGUYEN, SON H

ART UNIT	PAPER NUMBER
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2651

DATE MAILED: 12/07/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/469,597

Applicant(s)

JAMES E. ANGELO

Examiner

SON H NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 December 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

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DETAILED ACTION

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: detection axis 100 in fig. 3, on page 4, line 12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Claim 11 is objected to because of the following informalities: "claim 12" should be changed to "claim 1". Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-5, 9, 12, 13, 16, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Perry (3,688,287).

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Regarding claims 1, 12, and 19, Perry teaches a disk drive (fig. 2a) comprising: a head suspension (14) assembly supporting a head (16) (col. 3, lines 13-19); a transducer (12) supported on the head suspension assembly to induce a transducer signal in response to head vibration (col. 3, lines 51-58); a detector (20, 30, 40, 60) receiving the transducer signal and outputting a level detected signal indicative of head vibration (col. 5, lines 36-44).

Regarding claim 2, Perry teaches level detected signal is indicative of head-disk contact (col. 4, lines 6-14).

Regarding claim 3, Perry teaches a detector includes a frequency filter (30) (fig. 2a).

Regarding claims 4 and 16, Perry teaches a frequency filter is configured to pass at least one of a bending mode or torsion mode frequency (col. 3, lines 51-58).

The examiner interprets vibration frequency in the teaching of Perry including bending and/or torsion mode frequencies.

Regarding claims 5 and 13, Perry teaches a transducer is a piezoelectric transducer (col. 2, lines 42-45).

Regarding claim 9, Perry teaches a disk drive includes a plurality of head suspension assemblies and including a transducer couple to each head suspension assembly (fig. 2a and abstract).

Regarding claim 17, Perry teaches a disk drive includes a plurality of head suspension assemblies and including a transducer couple to each head suspension assembly to detect vibration for each of the plurality of head suspension assemblies (fig. 2a and abstract).

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perry as applied to claim 1 above, and further in view of Yeack-Scranton et al (4,532,802).

The teachings of Perry are described with reference to claim 1 above. However, Perry does not teach the transducer is an electrostatic transducer.

Yeack-Scranton et al teaches a transducer is an electrostatic transducer (capacitive transducer) (col. 1, lines 60-65).

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Perry to combine the teaching of Yeack-Scranton et al, motivation being to obtain a transducer corresponding to routine engineering decision as set forth in col. 1, lines 60-65 of Yeack-Scranton et al.

7. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry.

Regarding claims 7 and 15, Perry also teaches level detected signal being coupled to an indicator lamp actuated to indicate which memory element is in contact with the head and to actuate a relay to shut down the memory system (the abstract).

However, Perry does not teach a process controller coupled to the detector and configured to receive an outputted level detected signal and output a process command to reexecute a write command in drive memory.

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The examiner interprets it is well known in the art to use a process controller coupled to the detector and configured to receive an outputted level detected signal and output a process command to reexecute a write command in drive memory. In recording, when write head is in unsafe situation for writing, writing process must be stop in order to avoid losing data to be written; and after the head in a situation of safe to write, a rewrite process is performed. The stop writing and rewriting processes are controlled by a process controller that outputs commands corresponding to level detected signal from detecting of head positions.

It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Perry to combine the well known in the art, motivation being to base on-level detected signal of head situation to control writing process.

8. Claims 8, 10, 11, 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perry as applied to claims 1 and 12 above respectively, and further in view of Lee et al (4,868,447) and Morris (6,101,058).

Regarding claims 8, 10, and 14, the teachings of Perry are described with reference to claims 1 and 12 respectively. However, Perry does not teach a microactuator controller coupled to the transducer and configured to transmit a signal to the transducer to move the head.

Lee et al teaches a piezoelectric transducer can induce bending and torsional movements under effect of voltage signals (col. 3, lines 37-45). However, Lee et al does not teach a microactuator controller coupled to transducer.

Morris teaches a microactuator controller (174) coupled to a transducer (microactuator 158) to move a head (fig. 4 and col. 8, lines 36-39).

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It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teachings of Perry to combine the teachings of Lee et al and Morris, motivation being to position head aligned with track on a disk surface by a way of applying signal to a transducer to move a head.

Regarding claim 11, the teachings of claim 8 meet the limitations of this claim.

Regarding claim 18, the teaching of claims 8, 10, and 14 meet the limitations of this claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SON H NGUYEN whose telephone number is (703) 305-8190.

The examiner can normally be reached on 8:00 - 4:30, Mon - Fri.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

shn

shn

December 4, 2001

Regina Y. Neal
REGINA Y. NEAL
PRIMARY EXAMINER